

WHAT IS CLAIMED IS:

1. A toner residual amount detection apparatus having:

a developing device for developing an electrostatic image formed on an image bearing member by a toner, said developing device being provided for movement relative to an apparatus main body;

5 a sensor for outputting information corresponding to a toner residual amount in said 10 developing device;

judging means for comparing the output of said sensor with a reference value to thereby judge the toner residual amount;

wherein image forming is inhibited via a 15 predetermined member of times of image forming after the toner residual amount is judged to be not sufficient; and

20 changing means for changing the reference value to a smaller value with the judgement that the toner residual amount is not sufficient.

2. A toner residual amount detection apparatus according to Claim 1, wherein said developing device is provided detachably from the apparatus main body.

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3. A toner residual amount detection apparatus according to Claim 1 or 2, wherein said sensor is

provided in said developing device.

4. A toner residual amount detection apparatus according to Claim 3, wherein said sensor has an
5 electrically conductive member disposed in opposed relationship with a toner carrying member provided in said developing device for outputting a signal conforming to the toner residual amount with the application of a developing bias to said toner
10 carrying member.

5. A toner residual amount detection apparatus according to Claim 1 or 2, wherein when in a state in which the toner residual amount is judged to be not
15 sufficient, the output of said sensor exceeds the smaller reference value, said changing means changes it to the original reference value.

6. A toner residual amount detection apparatus
20 according to Claim 1 or 2, wherein when the number of times of a sampling output from said sensor indicative of "toner present" becomes equal to or less than the reference value within a predetermined time, said judging means judges that the toner
25 residual amount is not sufficient.

7. A toner residual amount detection apparatus

according to Claim 1 or 2, wherein when the rate of
an integrated time of a sampling output from said
sensor indicative of "toner present" to a
predetermined time becomes equal to or less than the
5 reference value, said judging means judges that the
toner residual amount is not sufficient.

8. A toner residual amount detection apparatus
according to Claim 1 or 2, wherein said changing
10 means changes the reference value to the smaller
value so that the toner residual amount may not be
erroneously judged to be sufficient.